



## A STUDY OF OPEN AIR DEFECATION PRACTICE IN RURAL NANDIVARGAM VILLAGE

Ashish Bijaykrishna Banerjee<sup>\*1</sup>, MAM Pasha<sup>2</sup>, A Fatima<sup>3</sup> and E Isaac<sup>4</sup>

<sup>1,2,3,4</sup>Department of Community Medicine, Santhiram Medical College, NH-18, Nandyal-518501, Kurnool District, Andhra Pradesh.

Received for publication: June 18, 2013; Accepted: June 28, 2013

**Abstract:** Toilets are not only sanitation and health issue, but also privacy, dignity, climatic and economic issue. India accounts for 59 percent people in the world practicing open air defecation. Objective of study was to understand the household behavior and attitude towards open air defecation by the residents and motivate public toilet / private toilet of Nandivargam village of Nandyal taluka, District Kurnool. It was a cross sectional study survey conducted from 2<sup>nd</sup> Oct to 15<sup>th</sup> Nov. 2012 using pre-tested questionnaires. Out of 946 households in the village, convenient sample of 236 households were interviewed. Systematic random sampling technique was used. Chi square test was applied for statistical analysis. There was significant association was found between lower socioeconomic status and open air defecation practice. ( $p < 0.001$ ). 151 (64%) of families were below poverty line, of which 127 (84.1 %) were practicing open air defecation. 134 (56.77%) households had toilets of which 97 (71.32 %) were using them. After defecation, all household respondents does hand washing at least with water, some 34 (14.4%) additionally use water with soap / ash. 179 ( 75.84%) households do not regard open air defecation practice as a stigma. Construction of toilets does not come under top priority list, if lump sum amount is given to non-toilet resident household. Rains are an important determinant for usage and construction of toilets. Study concluded that prevalence of open air defecation is very high (74.57%). Increasing awareness regarding health hazards, aesthetic sense and privacy might improve these practices. Effective political will and administrative support are needed to scale up the sanitation program.

**Keywords:** Behavior and Attitude, Health Hazards, Open Air Defecation, Sanitation

### INTRODUCTION

For much of India, toilets are all about an issue of sanitation, health, privacy and dignity, and gender rights. According to a UNICEF fact sheet, India with 626 million people who practice open air defecation has more than twice the number of the next 18 countries combined. This accounts for 90 per cent of the 692 million people in South Asia who practice open air defecation. 59 per cent of the 1.1 billion people in the world who practice open air defecation live in India.

The numbers are astounding as the prosperity of liberalized India does not seem to translate into better sanitation. There is little denying the anguish given that the numbers do not tie up with the sanitation standards expected of improving financial economy as well as urbanizing India. With India facing the slur of topping the global list in open air defecation, the government of India is keen to put the sanitation programme back on the centre stage by sensitizing the population about public hygiene. It is not an easy campaign to launch and run. Imagine someone asking what do you do? And having to answer, I promote toilets - toilet construction and toilet use. Most activists would happily say-I work on land rights, or housing rights, or equal wages, or the right to education. How many of us would stand up, proud, without batting an eyelid and say, I work on toilet rights? Saddled by both

a yuck factor and funny factor, it's a tough sell. Dealing with defecation, and its stench is yes, yucky. And scatological jokes, a dime a dozen.

Also, toilets appear trivial, fairly low down on our list of stated development priorities. Right to food is up there on top. Then the "electricity, road, water" ("bijli, sadak, paani") slogan takes over. Adding "house w/toilet" seems a stretch. Almost a luxury that poor people somehow do not deserve. At best, middle-class India will accept a toilet rights movement only so it cleans up 'our' streets and roadsides, and we do not have to gingerly step over mounds of fly covered excrement when we take our morning walk. It's the same sentiment that makes us want to remove or cover up slum dwellings and shanties. Remove the eyesore, so we can go about our pleasant lives without having to look at the unpleasant lives of our fellow citizens. And we can defecate every morning in the privacy of our tiled toilet, fitted with a flush, wondering why on earth "those people" think open air defecation is their birthright.

In large parts of rural India, women wake up pre-dawn, and carry a vessel of water to a quiet spot, doing their business under the cover of darkness, managing to retain a bit of privacy and dignity. God forbid nature

#### \*Corresponding Author:

Ashish Bijaykrishna Banerjee,

Department of Community Medicine,

Santhiram Medical College, NH-18, Nandyal-518501,

Kurnool District, Andhra Pradesh, India



calls in the middle of the day just hold it in. Never mind the cramps, chronic constipation, piles and poor digestion that will plague them for life. I recall a stroll at dawn many months ago, along shrubs and bushes of open field in a backward of study area. The open field was dotted with squatting women, rows of exposed skin, but every face fully covered with a piece of cloth (*ghunghat*). I understood something about the many ways women held on to their dignity — since they had no choice but to expose their bare bottoms for the world to see, they made sure no one could identify their faces. They were, quite literally, “saving face.”

I imagined, in an open field that the incessant rains must turned into a swamp, with everyone defecating where they can. It is a health nightmare. Or, imagine another area, where people walk to the nearest water body—a pond, a lake—and defecate in the same place from where they will later draw water for cooking. Sickness in these camps will spread like wildfire. It's time we took them seriously.

All of these aspects, persuaded me to take up study on understanding household behavior and attitude towards open air defecation by the residents and motivate toilet usage in Nandivargam village of Nandyal taluka, District Kurnool, India

### MATERIALS AND METHODS

It was a cross sectional study survey conducted from 2<sup>nd</sup> Oct (birth anniversary of Mahatma Gandhi) to 15<sup>th</sup> Nov. 2012 using pre-tested questionnaires. Out of 946 households in the village, convenient sample sizes of 236 households were interviewed. Systematic random sampling technique was used. The target population for the study is the head of household. Interviews were conducted face-to-face at respondents' homes and proformas was filled. The questionnaire was designed to elicit socio-economic status, socio-cultural, socio-economical and water borne communicable disease aspect of the family. Data was analyzed by using Statistical Package for Social Science i.e. SPSS (Version 16) statistical package. Chi square test was applied for statistical analysis. Also analysis of variance was done for comparison of observation. All hypotheses was tested at 0.05 level of significance

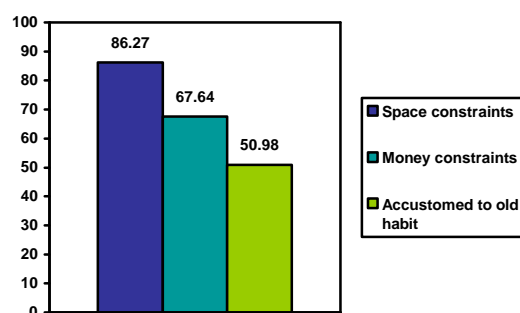
### RESULTS

There was significant association was found between lower socioeconomic status and open air defecation practice. ( $p < 0.001$ ). 151 (64%) of families were living under below poverty line, of them 127 (84.1 %) were practicing open air defecation.

All 236 families were asked to recall all the illness prevalent during the last one week prior to the day of recording the data. The results revealed that out of a

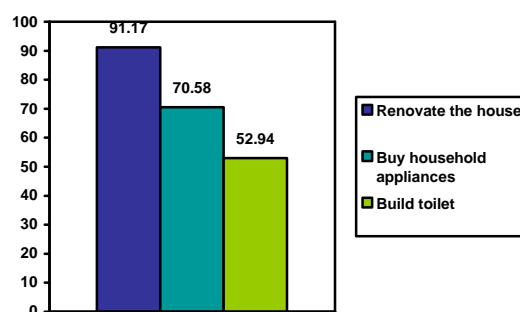
total of 564 individuals 128 (22.69%) were reported suffering from water-borne diseases such as diarrhoea (22.16%), worm infestation (9.39%), typhoid fever (0.88%) and jaundice (0.35%). The study indicates that low literacy rate, low economic status, unavailability of potable drinking water; ignorance, poor hygienic practices and cultural practices associated with consumption of drinking water etc. were found to be the determinants of high incidence of morbid condition in the village.<sup>14</sup>

All households stored drinking water in wide mouthed containers. 71.1% residents did not associate unsafe water with diarrhoea, attributing it to heat, spicy food, mud or mosquitoes.

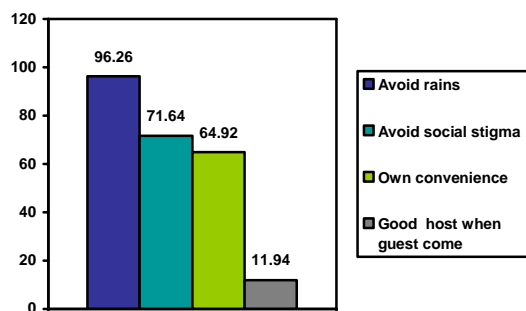


**Graph 1:** Reasons of not having toilets at home shown in %

In spite of desire by many household members to construct toilets, space constraints and money constraints remains a bitter truth. On the other side, majority of study population were comfortable with carrying out age old tradition of open air defecation. Construction of toilets does not come under top priority list, if lump sum amount is given to non-toilet resident household.



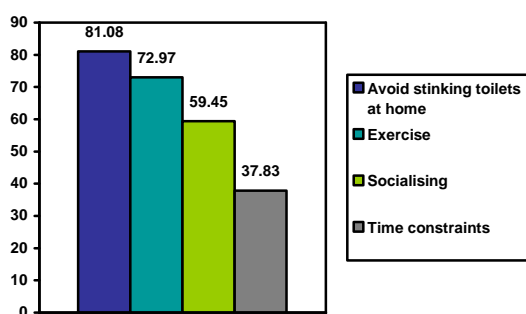
**Graph.2:** Choice of spending money if given for any use in %



**Graph.3:** Reason of building toilets shown in %

Rains are an important determinant for usage and construction of toilets. Residents of households having individual toilets are reluctant / refuse to share toilets with others. Place of open air defecation is demarcated for both genders. Men travel longer distance compared to female for open air defecation.

**Graph.4:** Having toilets at home, but opt for open air defecation exercise shown in %



Water scarcity in their homes, to flush toilets properly compels many household members for open air defecation. Many of them feel comfortable in continuing ages old traditional practice. Due to overcrowding of toilets during morning hours, some of them are forced to go out for attending nature's call.

After defecation, all household respondents does hand washing at least with water, some 34 (14.4%) additionally use water with soap / ash. There was a significant co-relation found between hand washing and waterborne disease. ( $p < 0.05$ )

Surprising results were found, when 75.84% household members replied that they does see open air defecation as social stigma. Thus traditional practices may pose a significant challenge to programmes aimed at toilet usage and better sanitation.<sup>18</sup>

## DISCUSSIONS

The Millennium Development Goal 7 (MDG7) Target 10 is to halve by 2015 the proportion of people

without sustainable access to safe drinking water and basic sanitation. Unless huge efforts are made, the proportion of people without access to basic sanitation will not be halved by 2015. At current rates of progress, we will reach 67 per cent coverage in 2015, better than previous projections but still far from the 75 per cent needed to reach the target. Unless the pace of change in the sanitation sector can be accelerated, the MDG target may not be reached until 2026.

The state of sanitation remains a powerful indicator of the state of human development in any community. Access to sanitation bestows benefits at many levels. Cross-country studies show that the method of disposing of excreta is one of the strongest determinants of child survival: the transition from unimproved to improved sanitation reduces overall child mortality by about a third. Improved sanitation also brings advantages for public health, livelihoods and dignity-advantages that extend beyond households to entire communities.

Human excreta and the lack of adequate personal and domestic hygiene have been implicated in the transmission of many infectious diseases including cholera, typhoid, hepatitis, polio, cryptosporidiosis, ascariasis, and schistosomiasis.<sup>12</sup> Hence proper excreta disposal and minimum levels of personal and domestic hygiene are essential for protecting public health. Safe excreta disposal and handling act as the primitive methods of excreta disposal, especially in rural areas where 76% of population lives. The causes of most of the leading diseases are our country is deeply rooted in the environment. It is therefore essential to have some changes in the environment especially with regard to disposal of waste and human excreta which is vital importance to keep diseases away, primary barrier for preventing excreted pathogens from entering the environment. It is believed that villages are known for pure water, fresh breeze and stress free life. But the most important fact in front of us is why people suffer from many diseases. The answer is quite evident they do not use toilets and resort to open air defecation.

Diarrhoeal diseases are leading cause of morbidity and mortality, especially among young children in low income countries and are associated with exposure to human excreta. Diarrhoeal diseases kill an estimated 1.8 million people each year. Among infectious disease, diarrhoea ranks as the third leading cause of both mortality and morbidity. Young children younger than five years of age diarrhoea accounts for 17% of all deaths. India has an unenviable record of high incidence of several infectious diseases. One gram of faeces contains 10000000 viruses, 1000000 bacteria, 1000 parasite cysts, 100 parasitic eggs. These

pathogens cause infections which lead to over 1.3 million deaths world-wide annually.

### CONCLUSION AND RECOMMENDATIONS

Basic sanitation is improved sanitation. Facilities that ensure hygienic separation of human excreta from human contact include: Flush or pour-flush toilet/latrine to a piped sewer system, a septic tank or a pit latrine, ventilated improved pit latrine, pit latrine with slab , composting toilet.

The experience of poor nations such as Ghana shows that the physical provision of services (toilets, refuse disposal containers, etc.) alone is not a sufficient precondition for sustainability or improvement of health and well-being of people.

Greater attention needs to be focused on elements of behavioral change of users and sustainability through user participation in planning, implementation, management and cost sharing. The provision of more toilet facilities, enacting laws and bye laws and the education of the general public by sanitary officers are key strategies for stopping open air defecation.

### REFERENCES

1. Progress on Drinking Water and Sanitation. 2012 update. UNICEF, WHO, March 2012.
2. Human Development Report 2006. United Nations Development Programme (UNDP), 2006.
3. K. Park, 'Park's Text Book of Preventive and Social Medicine, M/s Banarsidas Bhanot Publishers, Jabalpure, India, 22<sup>nd</sup> Edition, Page No. 701.
4. A loo of one's own, The Hindu October 12, 2012 OP-ED Farah Naqvi With 58% figures, India tops in open air defecation, The Times of India, Oct 2, 2011.
5. Water Sanitation Health Fast facts WHO/UNICEF joint monitoring report 2012: Progress on drinking water and sanitation.
6. Total Sanitation and Sanitation Marketing Research Report March 2009 Prepared for: The World Bank Water and Sanitation Program Prepared by: Nielsen Indonesia.
7. Comparison and adaptation of social change dynamics for the collective abandonment of open air defecation report December 2008, pg 43.
8. Water handling, sanitation and defecation practices in rural southern India: a knowledge, attitudes and practices study nov; 101(11); 1124-30.aug 31. 15<sup>th</sup> Oct. 2010. Available from: <http://www.ncbi.nlm.nih.gov/pubmed/17765275>.
9. GoI (2007) Total Sanitation Campaign Sanitation for all: 2012, New Delhi, India, Government of India, Ministry of Rural Development, Department of Drinking Water Supply, Rajiv Gandhi National Drinking Water Mission <http://ddws.gov.in/popups>
10. Total%20Sanitation%20Campaign%20Sanitation% 20for%20All%20-%202012.pdf
11. UNICEF (2007) Progress for Children: A World Fit for Children Statistical Review (no.6), New York, USA, UNICEF [http://www.unicef.org/progressforchildren/2007n6/index\\_4140.html](http://www.unicef.org/progressforchildren/2007n6/index_4140.html)

**Source of support:** Nil

**Conflict of interest:** None Declared